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United States Patent [19]**Burrows et al.**[11] **Patent Number:** **5,981,306**[45] **Date of Patent:** **Nov. 9, 1999**[54] **METHOD FOR DEPOSITING INDIUM TIN OXIDE LAYERS IN ORGANIC LIGHT EMITTING DEVICES**[75] Inventors: **Paul Burrows**, Princeton Junction; **Stephen R. Forrest**, Princeton; **Zilan Shen**, Lawrenceville, all of N.J.[73] Assignee: **The Trustees of Princeton University**, Princeton, N.J.[21] Appl. No.: **08/928,800**[22] Filed: **Sep. 12, 1997**[51] **Int. Cl.⁶** **H01L 51/40**[52] **U.S. Cl.** **438/22**; 438/99; 257/40;
313/506[58] **Field of Search** 438/22, 99; 257/40;
313/506[56] **References Cited****U.S. PATENT DOCUMENTS**4,950,950 8/1990 Perry et al. .
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Primary Examiner—Charles Bowers*Assistant Examiner*—Keith Christianson*Attorney, Agent, or Firm*—Kenyon & Kenyon[57] **ABSTRACT**

A method is disclosed for fabricating organic light emitting devices (OLEDs) containing an indium tin oxide (ITO) layer that is deposited onto a fragile layer. The ITO layer is fabricated using a low, non-damaging, ITO deposition rate until a protective ITO layer is formed, at which point the ITO deposition rate is increased to a substantially higher deposition rate without causing damage to the underlying layers. OLEDs fabricated using the accelerated ITO deposition rate could be made with I-V characteristics having no practically discernible difference from the I-V characteristics of an OLED in which the ITO deposition rate was kept at a low deposition rate throughout the ITO deposition process.

5 Claims, 4 Drawing Sheets